SEQUENCE LISTING

<110> Li, Chun Ping
      Zheng, Peizhong
      Nichols, Scott

<120> METHODS FOR REGULATING BETA-OXIDATION IN PLANTS

<130> 35718/235742

<140> 09/899,645
<141> 2001-07-05

<150> 60/216,211
<151> 2000-07-06

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<170> PatentIn Ver. 2.1

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                                 Met Val His Ser Leu His Ala Ile
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ttt ctt gtt gct gga gac aat aac ata ccg ata ata tat caa gtt cat   160
Phe Leu Val Ala Gly Asp Asn Asn Ile Pro Ile Ile Tyr Gln Val His
    10   15   20

cgg gca cgt gat gga tcc agc ttt gcc aca aga aaa gtg gag gca aag   208
Arg Ala Arg Asp Gly Ser Ser Phe Ala Thr Arg Lys Val Glu Ala Lys
25   30   35   40

cag aag ggc cta gtt gta ttc acc ttg att gct tct ttc cag aag gaa   256
Gln Lys Gly Leu Val Val Phe Thr Leu Ile Ala Ser Phe Gln Lys Glu
                45   50   55

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gaa gtg ggt ttt gag cat cag gct gca atc atg cct gat gtt cct ccg    304
Glu Val Gly Phe Glu His Gln Ala Ala Ile Met Pro Asp Val Pro Pro
            60                  65                  70


cca gaa cag ctc ctt aat ctg gag gag ata cgt gaa aga cgg ctt act    352
Pro Glu Gln Leu Leu Asn Leu Glu Glu Ile Arg Glu Arg Arg Leu Thr
        75                  80                  85


gat cca cgc ttc cca tcc caa tat agg aac ttg gca gct aaa aaa aag    400
Asp Pro Arg Phe Pro Ser Gln Tyr Arg Asn Leu Ala Ala Lys Lys Lys
        90                  95                  100


ttt att cct tgg ccc ata gaa atg aga ttt tgt gaa ggt tca gcg tct    448
Phe Ile Pro Trp Pro Ile Glu Met Arg Phe Cys Glu Gly Ser Ala Ser
105                 110                 115                 120


caa cat aaa cca agc tta aac tac tgg ttt aga gct cga ggg aaa ctc    496
Gln His Lys Pro Ser Leu Asn Tyr Trp Phe Arg Ala Arg Gly Lys Leu
                125                 130                 135


tca gac gac caa gct cta cac aga tgt gtt gta gca tat gct tcg gat    544
Ser Asp Asp Gln Ala Leu His Arg Cys Val Val Ala Tyr Ala Ser Asp
                140                 145                 150


cta cta ttt tct ggg gtg agc ctt aac cct cat cgg gag aag ggt ttg    592
Leu Leu Phe Ser Gly Val Ser Leu Asn Pro His Arg Glu Lys Gly Leu
            155                 160                 165


aag aca tac tgc ctc agt ctt gac cat tcc atc tgg ttc cac aaa cct    640
Lys Thr Tyr Cys Leu Ser Leu Asp His Ser Ile Trp Phe His Lys Pro
        170                 175                 180


gtg aag gct gac gaa tgg atg ctg tat gtg atc gag agc cca tct gcg    688
Val Lys Ala Asp Glu Trp Met Leu Tyr Val Ile Glu Ser Pro Ser Ala
185                 190                 195                 200


cac ggt ggt cgc ggt ttc gtc acc gga cgc atg ttc aac agg caa gga    736
His Gly Gly Arg Gly Phe Val Thr Gly Arg Met Phe Asn Arg Gln Gly
                205                 210                 215


gag ctt atc atg tcg ctg acc caa gag gca ttg att cga agg gag aag    784
Glu Leu Ile Met Ser Leu Thr Gln Glu Ala Leu Ile Arg Arg Glu Lys
                220                 225                 230


ccg cga gga cca aat ccg agg ccg aag ctt tgaggcacct gacagcctct    834
Pro Arg Gly Pro Asn Pro Arg Pro Lys Leu
            235                 240
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gcagtcgact gtagaggatc ccaaccgagc tttgagaggc gcaccatcct ttcttctaat 894

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			20				25					30			

Ala	Thr	Arg	Lys	Val	Glu	Ala	Lys	Gln	Lys	Gly	Leu	Val	Val	Phe	Thr
		35				40					45				

Leu	Ile	Ala	Ser	Phe	Gln	Lys	Glu	Glu	Val	Gly	Phe	Glu	His	Gln	Ala
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Ala	Ile	Met	Pro	Asp	Val	Pro	Pro	Pro	Glu	Gln	Leu	Leu	Asn	Leu	Glu
65				70				75					80		

Glu	Ile	Arg	Glu	Arg	Arg	Leu	Thr	Asp	Pro	Arg	Phe	Pro	Ser	Gln	Tyr
			85					90					95		

Arg	Asn	Leu	Ala	Ala	Lys	Lys	Lys	Phe	Ile	Pro	Trp	Pro	Ile	Glu	Met
			100				105					110			

Arg	Phe	Cys	Glu	Gly	Ser	Ala	Ser	Gln	His	Lys	Pro	Ser	Leu	Asn	Tyr
		115					120					125			

Trp	Phe	Arg	Ala	Arg	Gly	Lys	Leu	Ser	Asp	Asp	Gln	Ala	Leu	His	Arg
	130					135					140				

Cys	Val	Val	Ala	Tyr	Ala	Ser	Asp	Leu	Leu	Phe	Ser	Gly	Val	Ser	Leu
145					150					155					160

3

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Asn Pro His Arg Glu Lys Gly Leu Lys Thr Tyr Cys Leu Ser Leu Asp
                165                 170                 175

His Ser Ile Trp Phe His Lys Pro Val Lys Ala Asp Glu Trp Met Leu
            180                 185                 190

Tyr Val Ile Glu Ser Pro Ser Ala His Gly Gly Arg Gly Phe Val Thr
            195                 200                 205

Gly Arg Met Phe Asn Arg Gln Gly Glu Leu Ile Met Ser Leu Thr Gln
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Glu Ala Leu Ile Arg Arg Glu Lys Pro Arg Gly Pro Asn Pro Arg Pro
225                 230                 235                 240

Lys Leu
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ggc gat ccc cct ggg gac ctc cgt agc gtc ttg gtc acg acc gtg ctc     96
Gly Asp Pro Pro Gly Asp Leu Arg Ser Val Leu Val Thr Thr Val Leu
                20                  25                  30

aac ctc gag ccg ctg gac gag gat ctc ttc aga gga agg cat tac tgg    144
Asn Leu Glu Pro Leu Asp Glu Asp Leu Phe Arg Gly Arg His Tyr Trp
            35                  40                  45

gta ccg gcc aag agg ctg ttt ggt ggt cag atc gtg ggc cag gcc ctg    192
Val Pro Ala Lys Arg Leu Phe Gly Gly Gln Ile Val Gly Gln Ala Leu
        50                  55                  60

gtg gct gca gcc aag tct gtg agt gaa gac gtc cac gtg cac tcc ctg    240
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4

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Val Ala Ala Ala Lys Ser Val Ser Glu Asp Val His Val His Ser Leu
65                  70                  75                  80

cac tgc tac ttt gtt cgg gca ggg gac ccg aag ctg cca gta ctg tac   288
His Cys Tyr Phe Val Arg Ala Gly Asp Pro Lys Leu Pro Val Leu Tyr
                    85                  90                  95

caa gtg gag cgg aca cga aca ggg tcg agc ttc tcg gtg cgc tct gtg   336
Gln Val Glu Arg Thr Arg Thr Gly Ser Ser Phe Ser Val Arg Ser Val
                100                 105                 110

aag gcc gtg caa cat ggg aag ccc atc ttc atc tgc cag gcc tcc ttc   384
Lys Ala Val Gln His Gly Lys Pro Ile Phe Ile Cys Gln Ala Ser Phe
            115                 120                 125

cag cag gcc cag ccc agc ccc atg cag cac cag ttc tcc atg ccc act   432
Gln Gln Ala Gln Pro Ser Pro Met Gln His Gln Phe Ser Met Pro Thr
            130                 135                 140

gtg cca cca cca gaa gag ctg ctt gac tgt gag acc ctc att gac cag   480
Val Pro Pro Pro Glu Glu Leu Leu Asp Cys Glu Thr Leu Ile Asp Gln
145                 150                 155                 160

tat tta agg gac cct aac ctc caa aag agg tac cca ttg gcg ctc aac   528
Tyr Leu Arg Asp Pro Asn Leu Gln Lys Arg Tyr Pro Leu Ala Leu Asn
                165                 170                 175

cga att gct gct cag gag gtc ccc att gag atc aag cca gta aac cca   576
Arg Ile Ala Ala Gln Glu Val Pro Ile Glu Ile Lys Pro Val Asn Pro
            180                 185                 190

tcc ccc ctg agc cag ctg cag aga atg gag ccc aaa cag atg ttc tgg   624
Ser Pro Leu Ser Gln Leu Gln Arg Met Glu Pro Lys Gln Met Phe Trp
            195                 200                 205

gtg cga gcc cgg ggc tat att ggc gag ggc gac atg aag atg cac tgc   672
Val Arg Ala Arg Gly Tyr Ile Gly Glu Gly Asp Met Lys Met His Cys
            210                 215                 220

tgc gtg gcc gcc tat atc tcc gac tat gcc ttc ttg ggc act gca ctg   720
Cys Val Ala Ala Tyr Ile Ser Asp Tyr Ala Phe Leu Gly Thr Ala Leu
225                 230                 235                 240

ctg cct cac cag tgg cag cac aag gtg cac ttc atg gtc tca ctg gac   768
Leu Pro His Gln Trp Gln His Lys Val His Phe Met Val Ser Leu Asp
                245                 250                 255

cat tcc atg tgg ttc cac gcc ccc ttc cga gct gac cac tgg atg ctc   816
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5

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His Ser Met Trp Phe His Ala Pro Phe Arg Ala Asp His Trp Met Leu
        260             265             270

tat gaa tgc gag agc ccc tgg gcc ggt ggc tct cgg ggg ctg gtc cat    864
Tyr Glu Cys Glu Ser Pro Trp Ala Gly Gly Ser Arg Gly Leu Val His
        275             280             285

ggg cgg ctg tgg cgt cag gat gga gtc cta gct gtg acc tgt gcc cag    912
Gly Arg Leu Trp Arg Gln Asp Gly Val Leu Ala Val Thr Cys Ala Gln
    290             295             300

gag ggc gtg atc cga gtg aag ccc cag gtc tca gag agc aag ctg tag    960
Glu Gly Val Ile Arg Val Lys Pro Gln Val Ser Glu Ser Lys Leu
305             310             315
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<213> Homo sapiens

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            20              25              30

Asn Leu Glu Pro Leu Asp Glu Asp Leu Phe Arg Gly Arg His Tyr Trp
        35              40              45

Val Pro Ala Lys Arg Leu Phe Gly Gly Gln Ile Val Gly Gln Ala Leu
    50              55              60

Val Ala Ala Ala Lys Ser Val Ser Glu Asp Val His Val His Ser Leu
65              70              75              80

His Cys Tyr Phe Val Arg Ala Gly Asp Pro Lys Leu Pro Val Leu Tyr
            85              90              95

Gln Val Glu Arg Thr Arg Thr Gly Ser Ser Phe Ser Val Arg Ser Val
            100             105             110

Lys Ala Val Gln His Gly Lys Pro Ile Phe Ile Cys Gln Ala Ser Phe
        115             120             125

Gln Gln Ala Gln Pro Ser Pro Met Gln His Gln Phe Ser Met Pro Thr
    130             135             140
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6

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Val Pro Pro Pro Glu Glu Leu Leu Asp Cys Glu Thr Leu Ile Asp Gln
145             150             155             160

Tyr Leu Arg Asp Pro Asn Leu Gln Lys Arg Tyr Pro Leu Ala Leu Asn
                165             170             175

Arg Ile Ala Ala Gln Glu Val Pro Ile Glu Ile Lys Pro Val Asn Pro
            180             185             190

Ser Pro Leu Ser Gln Leu Gln Arg Met Glu Pro Lys Gln Met Phe Trp
        195             200             205

Val Arg Ala Arg Gly Tyr Ile Gly Glu Gly Asp Met Lys Met His Cys
    210             215             220

Cys Val Ala Ala Tyr Ile Ser Asp Tyr Ala Phe Leu Gly Thr Ala Leu
225             230             235             240

Leu Pro His Gln Trp Gln His Lys Val His Phe Met Val Ser Leu Asp
            245             250             255

His Ser Met Trp Phe His Ala Pro Phe Arg Ala Asp His Trp Met Leu
            260             265             270

Tyr Glu Cys Glu Ser Pro Trp Ala Gly Gly Ser Arg Gly Leu Val His
    275             280             285

Gly Arg Leu Trp Arg Gln Asp Gly Val Leu Ala Val Thr Cys Ala Gln
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Glu Gly Val Ile Arg Val Lys Pro Gln Val Ser Glu Ser Lys Leu
305             310             315


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acaatagcga agacaatgat gacgctagcc atcggctgaa gcgtgcggcc aggaccatta 180

ttccctggga ggaactaaga cccgacactc tggaatctga gctgtgaaac gggcgtcctg 240

cttttcatt ctacacaggc atatgtaaca gcagtgtata ggctatgtaa atcggcccaa 300

tcaacaaaca agcgttgctt attggacttg ctactacccc aacaaaggag agagcctttg 360

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ccagttggat ataaaccaga aaagggtttc aattcagtat ccaccatgag caagacaaga 480

taagacaaga ttgcataaaa atg agt gct tcc aaa atg gcc atg tcc aac cta 533
                              Met Ser Ala Ser Lys Met Ala Met Ser Asn Leu
                               1   5   10

gag aaa ata ttg gaa ctg gtt cct ctt tcg cct acc agt ttt gtc aca   581
Glu Lys Ile Leu Glu Leu Val Pro Leu Ser Pro Thr Ser Phe Val Thr
          15   20   25

aag tat ctg cct gcc gcg ccc gta ggg tct aag ggc act ttt ggt gga   629
Lys Tyr Leu Pro Ala Ala Pro Val Gly Ser Lys Gly Thr Phe Gly Gly
          30   35   40

acg ctg gta tca caa tcg ctg ctg gcg tca ttg cat act gtg cca ttg   677
Thr Leu Val Ser Gln Ser Leu Leu Ala Ser Leu His Thr Val Pro Leu
          45   50   55

aac ttc ttc ccc aca tcg cta cat tcg tat ttc atc aag ggt ggt gat   725
Asn Phe Phe Pro Thr Ser Leu His Ser Tyr Phe Ile Lys Gly Gly Asp
 60   65   70   75

ccg cgg acc aag atc acg tac cat gtg cag aat ctg aga aac ggt aga   773
Pro Arg Thr Lys Ile Thr Tyr His Val Gln Asn Leu Arg Asn Gly Arg
              80   85   90

aat ttc atc cat aag cag gtt agt gct tat cag cac gac aag ttg ata   821
Asn Phe Ile His Lys Gln Val Ser Ala Tyr Gln His Asp Lys Leu Ile
              95   100   105

ttt acg tcg atg atc tta ttt gcc gtg caa cgg tcc aag gag cac gac   869
Phe Thr Ser Met Ile Leu Phe Ala Val Gln Arg Ser Lys Glu His Asp
          110   115   120

tcc ttg cag cac tgg gag acg att cca ggc ctg caa ggt aag cag cca   917
Ser Leu Gln His Trp Glu Thr Ile Pro Gly Leu Gln Gly Lys Gln Pro

8

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gac cct cat cgt tat gaa gag gcc act tcg ctt ttc cag aaa gaa gtt    965
Asp Pro His Arg Tyr Glu Glu Ala Thr Ser Leu Phe Gln Lys Glu Val
140                 145                 150                 155


ctg gac cca cag aaa ttg agc agg tat gcc tca ttg tcc gac agg ttc    1013
Leu Asp Pro Gln Lys Leu Ser Arg Tyr Ala Ser Leu Ser Asp Arg Phe
                    160                 165                 170


caa gac gca acc tcg atg agc aag tat gtg gat gcg ttt caa tac gga    1061
Gln Asp Ala Thr Ser Met Ser Lys Tyr Val Asp Ala Phe Gln Tyr Gly
                175                 180                 185


gtc atg gag tac caa ttc ccc aag gac atg ttc tac tcg gca aga cac    1109
Val Met Glu Tyr Gln Phe Pro Lys Asp Met Phe Tyr Ser Ala Arg His
            190                 195                 200


acc gac gag ctg gat tat ttc gtc aaa gtg aga cct ccc atc act acc    1157
Thr Asp Glu Leu Asp Tyr Phe Val Lys Val Arg Pro Pro Ile Thr Thr
        205                 210                 215


gtg gag cac gcg ggc gac gag tct tct tta cac aag cat cat ccg tac    1205
Val Glu His Ala Gly Asp Glu Ser Ser Leu His Lys His His Pro Tyr
220                 225                 230                 235


agg atc ccg aag agc att act cct gag aac gac gct cgc tac aac tac    1253
Arg Ile Pro Lys Ser Ile Thr Pro Glu Asn Asp Ala Arg Tyr Asn Tyr
                    240                 245                 250


gtg gcc ttt gcg tat ctg tcc gat tcc tac ctc cta ctc acg atc ccg    1301
Val Ala Phe Ala Tyr Leu Ser Asp Ser Tyr Leu Leu Leu Thr Ile Pro
                    255                 260                 265


tac ttc cac aac ctg cct ttg tac tgc cac agt ttc agt gtc tcg ctc    1349
Tyr Phe His Asn Leu Pro Leu Tyr Cys His Ser Phe Ser Val Ser Leu
            270                 275                 280


gac cac acg att tac ttt cac cag ttg cct cat gtg aac aat tgg atc    1397
Asp His Thr Ile Tyr Phe His Gln Leu Pro His Val Asn Asn Trp Ile
            285                 290                 295


tat ctt aag att tcg aat ccc agg tcc cac tgg gac aag cac ctc gta    1445
Tyr Leu Lys Ile Ser Asn Pro Arg Ser His Trp Asp Lys His Leu Val
300                 305                 310                 315


cag ggc aag tat ttc gac aca cag tcg gga cgc atc atg gca agc gtc    1493
Gln Gly Lys Tyr Phe Asp Thr Gln Ser Gly Arg Ile Met Ala Ser Val
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tct cag gag ggc tac gtt gtc tac ggg tca gaa cga gac att cga gcc   1541
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            335                    340                    345

aag ttc tgaggacaat tccctcccac gtataaacac atacatatat attcttatat   1597
Lys Phe

tatataataa tatcctattt attattacat cacctttcac gagcgggtat catacctttt 1657

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gctgccaacc ccgtggaccg tcaggtatag taagtccaag aaaagagagt attttttcaa 1837

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caagcactta agagaccatc cagtgcgtgt aagatgcctg cacattctca tcaagcacaa 1957

ggattcaaga agacccgcat cgcatagatc cgagaacatt acgatatcca agcaagacgc 2017

tacggacgaa ctgaaaacct taatcacgag gtt                              2050


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Ala Pro Val Gly Ser Lys Gly Thr Phe Gly Gly Thr Leu Val Ser Gln
         35                  40                  45

Ser Leu Leu Ala Ser Leu His Thr Val Pro Leu Asn Phe Phe Pro Thr
    50                  55                  60

Ser Leu His Ser Tyr Phe Ile Lys Gly Gly Asp Pro Arg Thr Lys Ile
65                  70                  75                  80

Thr Tyr His Val Gln Asn Leu Arg Asn Gly Arg Asn Phe Ile His Lys
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10

Gln Val Ser Ala Tyr Gln His Asp Lys Leu Ile Phe Thr Ser Met Ile
        100   105   110

Leu Phe Ala Val Gln Arg Ser Lys Glu His Asp Ser Leu Gln His Trp
        115   120   125

Glu Thr Ile Pro Gly Leu Gln Gly Lys Gln Pro Asp Pro His Arg Tyr
        130   135   140

Glu Glu Ala Thr Ser Leu Phe Gln Lys Glu Val Leu Asp Pro Gln Lys
145   150   155   160

Leu Ser Arg Tyr Ala Ser Leu Ser Asp Arg Phe Gln Asp Ala Thr Ser
                165   170   175

Met Ser Lys Tyr Val Asp Ala Phe Gln Tyr Gly Val Met Glu Tyr Gln
                180   185   190

Phe Pro Lys Asp Met Phe Tyr Ser Ala Arg His Thr Asp Glu Leu Asp
            195   200   205

Tyr Phe Val Lys Val Arg Pro Pro Ile Thr Thr Val Glu His Ala Gly
        210   215   220

Asp Glu Ser Ser Leu His Lys His His Pro Tyr Arg Ile Pro Lys Ser
225   230   235   240

Ile Thr Pro Glu Asn Asp Ala Arg Tyr Asn Tyr Val Ala Phe Ala Tyr
                245   250   255

Leu Ser Asp Ser Tyr Leu Leu Leu Thr Ile Pro Tyr Phe His Asn Leu
                260   265   270

Pro Leu Tyr Cys His Ser Phe Ser Val Ser Leu Asp His Thr Ile Tyr
            275   280   285

Phe His Gln Leu Pro His Val Asn Asn Trp Ile Tyr Leu Lys Ile Ser
        290   295   300

Asn Pro Arg Ser His Trp Asp Lys His Leu Val Gln Gly Lys Tyr Phe
305   310   315   320

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                                        Met Gly Asp Arg Gly Gly
                                         1   5

gcg gga agc tct cgg cgt cgg agg acc ggc tcg cgg gtt tcc gtc cag   161
Ala Gly Ser Ser Arg Arg Arg Arg Thr Gly Ser Arg Val Ser Val Gln
            10   15   20

ggt ggt agt ggg ccc aag gta gaa gag gac gag gtg cga gac gcg gct   209
Gly Gly Ser Gly Pro Lys Val Glu Glu Asp Glu Val Arg Asp Ala Ala
            25   30   35

gtg agc ccc gac ttg ggc gcc ggg ggt gac gcg ccg gct ccg gct ccg   257
Val Ser Pro Asp Leu Gly Ala Gly Gly Asp Ala Pro Ala Pro Ala Pro
        40   45   50

gct cca gcc cat acc cgg gac aaa gac ggg cgg acc agc gtg ggc gac   305
Ala Pro Ala His Thr Arg Asp Lys Asp Gly Arg Thr Ser Val Gly Asp
55   60   65   70

ggc tac tgg gat ctg agg tgc cat cgt ctg caa gat tct ttg ttc agc   353
Gly Tyr Trp Asp Leu Arg Cys His Arg Leu Gln Asp Ser Leu Phe Ser
                75   80   85

tca gac agt ggt ttc agc aat tat cgt ggt atc ctg aat tgg tgt gtg   401
Ser Asp Ser Gly Phe Ser Asn Tyr Arg Gly Ile Leu Asn Trp Cys Val
                90   95   100

gtg atg ctg atc ctg agt aat gca agg tta ttt tta gag aac ctt atc   449
Val Met Leu Ile Leu Ser Asn Ala Arg Leu Phe Leu Glu Asn Leu Ile
            105   110   115

12

aag tat ggc atc ctg gtg gat cct atc cag gtg gtg tct ctg ttt ttg   497
Lys Tyr Gly Ile Leu Val Asp Pro Ile Gln Val Val Ser Leu Phe Leu
        120   125   130

aag gac ccc tac agc tgg cct gcc cca tgc gtg att att gca tcc aat   545
Lys Asp Pro Tyr Ser Trp Pro Ala Pro Cys Val Ile Ile Ala Ser Asn
135   140   145   150

att ttt gtt gtg gct gca ttt cag att gag aag cgc ctg gca gtg ggt   593
Ile Phe Val Val Ala Ala Phe Gln Ile Glu Lys Arg Leu Ala Val Gly
            155   160   165

gcc ctg aca gag cag atg ggg ctg ctg cta cat gtg gtt aac ctg gcc   641
Ala Leu Thr Glu Gln Met Gly Leu Leu Leu His Val Val Asn Leu Ala
                170   175   180

aca atc att tgc ttc cca gca gct gtg gcc tta ctg gtt gag tct atc   689
Thr Ile Ile Cys Phe Pro Ala Ala Val Ala Leu Leu Val Glu Ser Ile
        185   190   195

act cca gtg ggt tcc gtg ttt gct ctg gca tca tac tcc atc atg ttc   737
Thr Pro Val Gly Ser Val Phe Ala Leu Ala Ser Tyr Ser Ile Met Phe
    200   205   210

ctc aag ctt tat tcc tac cgg gat gtc aac ctg tgg tgc cgc cag cga   785
Leu Lys Leu Tyr Ser Tyr Arg Asp Val Asn Leu Trp Cys Arg Gln Arg
215   220   225   230

agg gtc aag gcc aaa gct gtc tct aca ggg aag aag gtc agt ggg gct   833
Arg Val Lys Ala Lys Ala Val Ser Thr Gly Lys Lys Val Ser Gly Ala
                235   240   245

gct gcc cag caa gct gtg agc tat cca gac aac ctg acc tac cga gat   881
Ala Ala Gln Gln Ala Val Ser Tyr Pro Asp Asn Leu Thr Tyr Arg Asp
            250   255   260

ctc tat tac ttc atc ttt gct cct act ttg tgt tat gaa ctc aac ttt   929
Leu Tyr Tyr Phe Ile Phe Ala Pro Thr Leu Cys Tyr Glu Leu Asn Phe
            265   270   275

cct cgg tcc ccc cga ata cga aag cgc ttt ctg cta cga cga gtt ctt   977
Pro Arg Ser Pro Arg Ile Arg Lys Arg Phe Leu Leu Arg Arg Val Leu
        280   285   290

gag atg ctc ttt ttt acc cag ctt caa gtg ggg ctg atc caa cag tgg   1025
Glu Met Leu Phe Phe Thr Gln Leu Gln Val Gly Leu Ile Gln Gln Trp
295   300   305   310

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atg gtc cct act atc cag aac tcc atg aag ccc ttc aag gat atg gac     1073
Met Val Pro Thr Ile Gln Asn Ser Met Lys Pro Phe Lys Asp Met Asp
            315                 320                 325

tat tca cgg atc att gag cgt ctc tta aag ctg gcg gtc ccc aac cat     1121
Tyr Ser Arg Ile Ile Glu Arg Leu Leu Lys Leu Ala Val Pro Asn His
            330                 335                 340

ctg atc tgg ctt atc ttc ttc tat tgg ttt ttc cac tcc tgt ctc aat     1169
Leu Ile Trp Leu Ile Phe Phe Tyr Trp Phe Phe His Ser Cys Leu Asn
            345                 350                 355

gct gtg gca gag ctt ctg cag ttt gga gac cgc gag ttc tac aga gat     1217
Ala Val Ala Glu Leu Leu Gln Phe Gly Asp Arg Glu Phe Tyr Arg Asp
            360                 365                 370

tgg tgg aat gct gag tct gtc acc tac ttt tgg cag aac tgg aat atc     1265
Trp Trp Asn Ala Glu Ser Val Thr Tyr Phe Trp Gln Asn Trp Asn Ile
375                 380                 385                 390

ccc gtg cac aag tgg tgc atc aga cac ttc tac aag cct atg ctc aga     1313
Pro Val His Lys Trp Cys Ile Arg His Phe Tyr Lys Pro Met Leu Arg
            395                 400                 405

cat ggc agc agc aaa tgg gtg gcc agg aca gga gta ttt ttg acc tca     1361
His Gly Ser Ser Lys Trp Val Ala Arg Thr Gly Val Phe Leu Thr Ser
            410                 415                 420

gcc ttc ttc cat gag tac cta gtg agc gtt ccc ctg cgg atg ttc cgc     1409
Ala Phe Phe His Glu Tyr Leu Val Ser Val Pro Leu Arg Met Phe Arg
            425                 430                 435

ctc tgg gca ttc aca gcc atg atg gct cag gtc cca ctg gcc tgg att     1457
Leu Trp Ala Phe Thr Ala Met Met Ala Gln Val Pro Leu Ala Trp Ile
            440                 445                 450

gtg ggc cga ttc ttc caa ggg aac tat ggc aat gca gct gtg tgg gtg     1505
Val Gly Arg Phe Phe Gln Gly Asn Tyr Gly Asn Ala Ala Val Trp Val
455                 460                 465                 470

aca ctc atc att ggg caa ccg gtg gct gtg ctc atg tat gtc cac gac     1553
Thr Leu Ile Ile Gly Gln Pro Val Ala Val Leu Met Tyr Val His Asp
            475                 480                 485

tac tac gtg ctc aac tac gat gcc cca gtg ggg gta tgagctactg         1599
Tyr Tyr Val Leu Asn Tyr Asp Ala Pro Val Gly Val
            490                 495
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ccaaaggcca gccctcccta acctgggcct ggagttctgg aggggttcct g   1650

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<211> 498
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<213> Mus musculus

<400> 8
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Ser Arg Val Ser Val Gln Gly Gly Ser Gly Pro Lys Val Glu Glu Asp
             20   25   30

Glu Val Arg Asp Ala Ala Val Ser Pro Asp Leu Gly Ala Gly Gly Asp
             35   40   45

Ala Pro Ala Pro Ala Pro Ala Pro Ala His Thr Arg Asp Lys Asp Gly
     50   55   60

Arg Thr Ser Val Gly Asp Gly Tyr Trp Asp Leu Arg Cys His Arg Leu
 65   70   75   80

Gln Asp Ser Leu Phe Ser Ser Asp Ser Gly Phe Ser Asn Tyr Arg Gly
                 85   90   95

Ile Leu Asn Trp Cys Val Val Met Leu Ile Leu Ser Asn Ala Arg Leu
             100   105   110

Phe Leu Glu Asn Leu Ile Lys Tyr Gly Ile Leu Val Asp Pro Ile Gln
             115   120   125

Val Val Ser Leu Phe Leu Lys Asp Pro Tyr Ser Trp Pro Ala Pro Cys
     130   135   140

Val Ile Ile Ala Ser Asn Ile Phe Val Val Ala Ala Phe Gln Ile Glu
145   150   155   160

Lys Arg Leu Ala Val Gly Ala Leu Thr Glu Gln Met Gly Leu Leu Leu
             165   170   175

His Val Val Asn Leu Ala Thr Ile Ile Cys Phe Pro Ala Ala Val Ala
             180   185   190

Leu Leu Val Glu Ser Ile Thr Pro Val Gly Ser Val Phe Ala Leu Ala
     195   200   205

15

Ser Tyr Ser Ile Met Phe Leu Lys Leu Tyr Ser Tyr Arg Asp Val Asn
210   215   220

Leu Trp Cys Arg Gln Arg Arg Val Lys Ala Lys Ala Val Ser Thr Gly
225   230   235   240

Lys Lys Val Ser Gly Ala Ala Ala Gln Gln Ala Val Ser Tyr Pro Asp
            245   250   255

Asn Leu Thr Tyr Arg Asp Leu Tyr Tyr Phe Ile Phe Ala Pro Thr Leu
            260   265   270

Cys Tyr Glu Leu Asn Phe Pro Arg Ser Pro Arg Ile Arg Lys Arg Phe
        275   280   285

Leu Leu Arg Arg Val Leu Glu Met Leu Phe Phe Thr Gln Leu Gln Val
    290   295   300

Gly Leu Ile Gln Gln Trp Met Val Pro Thr Ile Gln Asn Ser Met Lys
305   310   315   320

Pro Phe Lys Asp Met Asp Tyr Ser Arg Ile Ile Glu Arg Leu Leu Lys
            325   330   335

Leu Ala Val Pro Asn His Leu Ile Trp Leu Ile Phe Phe Tyr Trp Phe
            340   345   350

Phe His Ser Cys Leu Asn Ala Val Ala Glu Leu Leu Gln Phe Gly Asp
        355   360   365

Arg Glu Phe Tyr Arg Asp Trp Trp Asn Ala Glu Ser Val Thr Tyr Phe
    370   375   380

Trp Gln Asn Trp Asn Ile Pro Val His Lys Trp Cys Ile Arg His Phe
385   390   395   400

Tyr Lys Pro Met Leu Arg His Gly Ser Ser Lys Trp Val Ala Arg Thr
            405   410   415

Gly Val Phe Leu Thr Ser Ala Phe Phe His Glu Tyr Leu Val Ser Val
            420   425   430

Pro Leu Arg Met Phe Arg Leu Trp Ala Phe Thr Ala Met Met Ala Gln
        435   440   445

Val Pro Leu Ala Trp Ile Val Gly Arg Phe Phe Gln Gly Asn Tyr Gly
    450   455   460

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Asn Ala Ala Val Trp Val Thr Leu Ile Ile Gly Gln Pro Val Ala Val
465   470   475   480

Leu Met Tyr Val His Asp Tyr Tyr Val Leu Asn Tyr Asp Ala Pro Val
                485   490   495

Gly Val